National Institute of Environmental Health Sciences

The impact of climate change on winter road maintenance and traffic accidents in West Midlands, UK

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Abstract:

Winter weather can be a significant cause of road traffic accidents. This paper uses UKCIP climate change scenarios and a temporal analogue to investigate the relationship between temperature and severe road accidents in the West Midlands, UK. This approach also allows quantification of the changes in the severity of the winter season over the next century in the region. It is demonstrated that the predicted reduction in the number of frost days should in turn reduce the number of road accidents caused due to slipperiness by approximately 50%. However, the paper concludes by warning against complacency in winter maintenance regimes. A warmer climate may result in budget cuts for highway maintenance which in turn may well reverse declining accident trends.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES), Other Climate Scenario

Special Report on Emissions Scenarios (SRES) Scenario: SRES A2

Other Climate Scenario: UKCIP02 medium-high emission scenario

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Exposure :

weather or climate related pathway by which climate change affects health

Temperature, Other Exposure

Other Exposure: Number of frost days

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : United Kingdom

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Injury

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content